

Department of

ANESTHESIA

THE UNIVERSITY OF IOWA



Fall 2008

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Remarkable DEPARTMENT NEWS

First Endowed Professorship in UI Anesthesia Department Awarded



Samir D. Gergis, MD

A gift of \$1 million from the estate of **Samir D.**"**Sam" Gergis,** MD, has established the first endowed professorship in the Department of Anesthesia at the University of Iowa Roy J. and Lucille A. Carver College of Medicine.
Dr. Gergis, who died in April 2005 at the age

of 71, was a longtime faculty member of the UI Department of Anesthesia.

Timothy J. Brennan, MD, PhD, has been named the Dr. Samir D. Gergis Professor of Anesthesia. Dr. Brennan joined Iowa's Department of Anesthesia in 1993, as an Associate of Anesthesiology, advancing to tenured Professor status in the Departments of Anesthesia and Pharmacology in 2006. He is certified by the American Board of Anesthesiology, with

additional subspecialty certification in pain management. During residency training, he developed his interest in acute postoperative pain, and he is recognized worldwide for his innovative laboratory work on the mechanisms and treatment of



Tim Brennan in his laboratory

postoperative surgical pain, an issue relevant to countless millions of patients each year. His research has been NIH-funded for over a decade. Dr. Brennan has published extensively in peerreviewed medical journals, as well as contributing chapters to several texts. He delivers invited



Sawfat Gergis, Jean Robillard, Sam Gergis, Tom DePrenger, and Salah Danial

lectures both domestically and internationally and serves on multiple professional editorial boards, including his current position as Assistant Editorin-Chief for *Anesthesiology*, the largest international anesthesia source in the specialty. He has held offices in professional organizations since 1996, was a founding member of the Acute Pain Special Interest Group of the International Association for the Study of Pain, and served as program chair for both the American Society of Regional Anesthesia and the American Pain Society. In 1998, Dr. Brennan was appointed to the UI Anesthesia Department Research Committee. He currently holds the position of Vice Chair for Research in

The Gergis Professorship will significantly advance lowa's already excellent reputation for anesthesia scholarship and education.



Tim Brennan's lab personnel find a moment to relax

the department. He serves the University of Iowa Hospitals and Clinics by participating on several committees and task forces. At the collegiate level, Dr. Brennan has held many positions, including as a current member of the Medical Student Research Council.

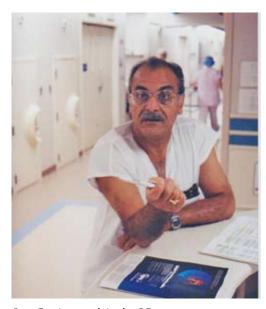
Michael M. Todd, MD, the Head of the Department of Anesthesia, upon initial notification of the generous gift from Dr. Gergis, stated, "The Gergis Professorship will significantly advance Iowa's already excellent reputation for anesthesia scholarship and education. It is especially meaningful for us to have a professorship in our department named for our [former] colleague and good friend, Sam Gergis, and it is appropriate that our first endowed professorship would be established by such an esteemed leader. We are extremely grateful for Dr. Gergis' generosity."

Dr. Gergis was a faculty member in the UI Department of Anesthesia for over 35 years, joining as a resident for one year in 1969 and rising through the ranks to become full professor in 1976. He served as acting head of the department in 1977 and 1978, and served as vice chairman of clinical affairs for the department from 1985 until 1997. He continued his clinical teaching until his death. Special interests for Dr. Gergis included care of the neurosurgical patient and research related to the pharmacology of neuromuscular (curarelike) drugs. Among numerous honors from organizations

worldwide, Dr. Gergis received the American Medical Association Physician Recognition Award seven times, and he was a Fellow of the American College of Anesthesiology.

A native of Egypt, Gergis entered Cairo University at age 14, eventually receiving his anesthesia and medical degrees in 1957 and 1958, respectively. He also completed a fellowship at the World Health Organization and the University of Copenhagen, Denmark, in 1963.

The University of Iowa Foundation and the Carver College of Medicine are planning a formal investiture ceremony for fall. This celebration provides an opportunity for the medical community and the families of both Dr. Gergis and Dr. Brennan to participate in the special recognition and honor of this unprecedented endowed professorship.



Sam Gergis at work in the OR area

NOTES FROM THE Chair

A Personal Journey in Academic Medicine - the Best Job in the World!



The Chief at work with CA-3 Steve Pulley

A number of you have asked me to say a bit more about myself. I'm a child of the 50's and I'll bet that my experiences are similar to many of you who grew up in the same era.

I was born in 1949, spent a few years in Pittsburg, PA, and moved to Phoenix, AZ in 1953. There were still hitching posts for horses on Main Street, Indians from the reservations sold jewelry in front of Newberry's, and some men wore revolvers on their hips. The newspapers carried stories of gunfights in the desert between prospectors searching for gold in the Superstition Mountains. Competitors in the Phoenix Rodeo were real cowboys, not professionals. I loved camping in the desert. I was given my first gun when I was about eight years old. My father was a veteran of World War I (and is buried in Arlington Cemetery, with my mother alongside him) and a college educated construction worker. My mother was a nurse. Our house was full of books. In some of my friends' homes, comic books were banned; in ours, anything you could read was considered OK.

I grew up during the space age. I can still name all of the Mercury astronauts. I remember getting up in the early hours of the morning and waiting for hours to see Alan B. Shepard Jr.'s 1961 Freedom 7 launch on television. I watched every one of the subsequent Mercury missions, launch to landing. If the launch hadn't occurred by the time I went to school, I could be sure that my teachers would bring a TV to school so the class could watch. My mother was constantly amazed that she had been born the year of the Wright Brothers first flight (1903), and lived long enough to see a man walk on the moon.

From my earliest years, I never considered anything other than a career in science. My dad thought science was important enough

I remember making solid rocket fuel out of caramel candy, as well as sulfur and potassium nitrate...

to build a laboratory on the back of my room - benches, cabinets, water, Bunsen burners, etc. Boy, did I blow up stuff! I had a lot of help though, as all of my friends ended up in the sciences. I remember making solid rocket fuel out of caramel candy, as well as sulfur and potassium nitrate, in a pot on an open flame kitchen stove, with my mother helping! And the recipe came from a book I checked out of the school library. I don't remember anyone ever saying, "No, don't do that; it's dangerous." There were a few instances of, "Be careful!" but nothing more.

I had some early mentors. My first science project was in the 6th grade, and was on rocketry. I was oriented toward "physical things" until I encountered a high school biology teacher who gave my cronies and me free rein in the school laboratory. We did lots of odd projects and dissected anything we could find, from worms to piglets. This teacher also helped me gain my first exposure to real science, a work-study job after my sophomore year with the Centers for Disease Control in Phoenix, where I did microbiology work for NASA. Our task was to do assessments of spacecraft components. People were quite concerned about contaminating the moon or bringing something back. I got to be a pretty good microbiologist: cultures, autoclaves, Petri dishes, gram stains, microscopes, identification, etc. I spent a summer at the University of Arizona, visited Kitt Peak Observatory, spent an

NOTES FROM THE Chair (continued)

afternoon in a Titan missile silo, and spent a weekend doing Marine biology in Mexico.

I only applied to two colleges: The University of Arizona and the University of Chicago. During high school, I'd read everything I could about the development of the atomic bomb. Enrico Fermi and his construction of the first reactor under the squash courts of Chicago's Stagg Field fascinated me, so there was never any hesitation when I was accepted by Chicago.

Sometime early in my second year, I went to a party. I'd read something in a textbook about mitochondria having DNA and the faculty biology adviser at the party said, "You need to talk to Swift in the Biology Department." Hewson Swift, PhD, is credited with discovering that the amount of DNA in the nucleus of a cell doubled before cell division. He was extremely encouraging, and suggested that I work on yeast, the simplest eukaryotes. I accepted the offer, and within about a year, had my own lab and my own electron microscope. The real badge of acceptance was when I was given my own diamond knife to cut ultrathin sections, something usually reserved only for graduate students, and a really big deal when you consider their cost (OK, it was a used knife, but I was proud as a peacock). I remember being so excited that I'd get up at 1:00 a.m., go to the lab (I had a key to the building), and work on the microscope until mid-morning, absolutely enthralled by just about anything I saw.

How I got into anesthesiology is crystal clear. I was an M-3 student on an Internal Medicine rotation

at Chicago. A week after I started, we were called to the emergency room to care for a 16 y.o. lifeguard who had suffered a near drowning event in Lake Michigan. I remember an arterial pH of something like 6.1, along with the worst case of acute respiratory distress syndrome (ARDS) any of my residents or faculty had ever seen. The boy was dying until a quiet Danish anesthesiologist named Christian Rottenberg walked into the unit and miraculously fixed everything. Two nights later, the patient deteriorated again. My resident was at a loss, as was the attending. Someone said, "Call Dr. Rottenberg," and so I, as the medical student, was designated to place the call at 3:00 in the morning! I'll never forget when a quiet voice answered and said, without hesitation, "I'll be right there." Again, he fixed everything. This was the first time I'd ever heard of an anesthesiologist, and I was hooked from that point forward. Chris Rottenberg has been my role model ever since, and I don't think I've ever hesitated to come when someone asked me for help.

There is more to the story, but it's time to stop. You can see a pattern - one I've seen in all successful academicians - encouraging parents, lots of opportunities to pursue my interests, some inspirational elders. Sometime, I'll tell you more about my time in Boston, MA (including my two ether anesthetics, one on Ether Day!), my first medical research work, my time in San Diego, CA, the *Anesthesiology* Journal, and my 22 years in Iowa. But I've been blessed; I still have a hard time accepting the fact that I'm paid so well to do something that I love to do so much. I wouldn't change anything - and I look forward to more years of doing the same.

Michel M. Todd, MD Chair, Department of Anesthesia



Jenni Nicholson, accountant, and Deb Roush, secretary, donating blood during the 2007 department blood drive



John Stark donating blood during the 2007 department blood drive

ADMINISTRATOR'S Corner

A Little Blood Can Make a Big Difference



John Stark smiling after his blood donation

Although we take it for granted, we all appreciate the importance blood plays in our lives. When all is well, we don't give blood a second thought. But when we need it, there is nothing more important.

For those readers who are not aware, anesthesia providers

have an especially keen understanding of the need for blood donations based on their responsibility for all intraoperative blood product administration.

Transfusion criteria or "triggers" are based on the patient's preexisting health status, the patient's current clinical hemodynamic state, and laboratory testing, all of which are closely monitored by the anesthesia provider. Decisions are made by the anesthesia provider based upon these criteria as to how much and which kinds of blood products are ordered and administered. Surgeons are kept closely informed of blood loss and the need for blood product administration through close communication between the anesthesia and surgical teams. In certain cases when a patient has coagulation abnormalities, blood products are necessary to restore clotting factors essential to preventing excessive surgical bleeding. These are either administered before the patient gets to the operating room (OR) or immediately upon arrival to the OR, depending on the urgency of the case. In either case, the anesthesia team is a vital part of blood product ordering and administration.

Because of the integral involvement of the Department of Anesthesia to the use of blood at the University of Iowa Hospitals and Clinics (UIHC), we feel obligated to do what we can to encourage blood donation in our community. In August 2007, the department co-sponsored a UI DeGowin Blood Center blood drive. During this event, we helped to establish a high mark for donations in this particular location, collecting in excess of 90 units of blood during the event, more than 40 directly from Anesthesia staff and family. In fact, following our event, our department was second only to the Department of Internal Medicine for total units donated during the year. However, Internal Medicine runs a month long campaign versus the one week counted for us and they have a much larger department, so proportionally, we did phenomenal!

"We make a living by what we get, but we make a life by what we give."

-Winston Churchill

We are hoping to surpass this achievement during our August 2008 blood drive. We'll report our success in a future newsletter.

Here are a few facts about our need for blood, courtesy of the UI DeGowin Blood Center:

- 1. Every three seconds someone needs blood.
- 2. One out of every 10 people entering a hospital needs blood.
- 3. Sixty percent of the U.S. population is eligible to donate blood; however, only five percent do.
- 4. Shortages of all types of blood often occur during the summer and winter holidays.
- 5. The average red blood cell transfusion is 3.4 units.
- 6. A heart surgery uses an average of six units of red blood cells and six pints of platelets.
- 7. The average liver transplant patient needs 40 units of red blood cells, 30 units of platelets, 20 bags of cryoprecipitate, and 25 bags of fresh frozen plasma.
- 8. Approximately 32,000 units of blood are used each day in the United States.
- 9. In an average week, UIHC patients need over 600 units of blood products.
- 10. Last year, we (UIHC) transfused more than 28,000 units of blood products.
- 11. Just one unit of donated blood can help save the lives of several people.
- 12. If all blood donors gave at least twice a year, it would greatly strengthen the nation's blood supply.

So remember, taking a few minutes of your time to donate every eight weeks for whole blood or every four weeks for platelets is crucially important to our patients. For more information or to schedule a time to donate in the Iowa City area, please contact the UI DeGowin Blood Center at (319) 356-2058 or on the web at http://www.uihealthcare.com/depts/degowinbloodcenter.

"You know you're old if they have discontinued your blood type."
-Phyllis Diller

John W. Stark, MBA, Department Administrator Sam Thibodeaux, MSN, Assistant Chief CRNA Due to technological and pharmaceutical advances, cardiothoracic anesthesia is not as challenging as it was 50 years ago. However, it still remains one of the high-stress and labor-intensive anesthesia specialties.

Dr. Jack Moyers utilizing ice water bath during congenital heart surgical procedure in the late 1960s

Spotlight on a Clinical Division

Cardiothoracic Anesthesia

The University of Iowa Department of Anesthesia Cardiothoracic Anesthesia Division provides anesthesia for adult and pediatric cardiothoracic surgery. Anesthesia for these cases requires special knowledge and skills such as cardiopulmonary bypass, transesophageal echocardiography (TEE), and lung isolation techniques. Due to surgical manipulation, hemodynamics must be continuously monitored. All team members, including operators, perfusionists, and anesthesiologists must communicate well and understand the process of the procedure.

History

The earliest cardiac procedures were recorded in 1949 and included patent ductus arteriosis, coarctation of the aorta, and tetralogy of Fallot. Dr. Jack Moyers, previous Chair in Iowa's Department of Anesthesia (1967-1977), is one of the earliest anesthesiologists dedicated to cardiac anesthesia. At that time, the

hypothermia technique was used for most congenital heart disease surgeries utilizing an ice water bath.

In 1953, the University of Iowa Hospitals and Clinics (UIHC) started using hypothermia techniques for pediatric heart surgery. In 1955, UIHC cardiac surgeon Johann Ehrenhaft, MD, and staff built a cardiopulmonary bypass machine, which was first used on a five year-old patient in 1956. Since then, more than 25,000 adult and pediatric cardiac surgeries have been performed at UIHC.

Around 1955, a dedicated team was formed at UIHC to address the unique anesthetic techniques of cardiothoracic surgery. This was the first specialty in anesthesia and solely covers cardiothoracic cases. Currently, the group is comprised of six cardiothoracic anesthesiologists representing a diverse range of career experience. Half of the team has been at UIHC for more than 20 years, while two members are among the youngest faculty in the department. This diversity stimulates and enhances technical performance and clinical knowledge.

Over the years, the development of precutaneous coronary intervention has significantly decreased the number of coronary artery bypass surgeries. However, the numbers of valvular and congenital heart surgeries have continuously grown. There are also increasing numbers of technically challenging cases such as minimally invasive valvular surgery and off-pump coronary artery bypass graft surgery. Over all, approximately 500 cardiac operations are conducted annually at UIHC.

Thoracic Anesthesia

Javier Campos, MD, Director of Cardiothoracic Anesthesia, has led clinical research in thoracic anesthesia with a specific interest in lung isolation techniques. About 400 thoracic surgery cases are performed each year. Mark D. Iannettoni, MD, was appointed Head of UIHC's Department of Cardiothoracic Surgery in 2005, and a new lung transplant program was started shortly thereafter. In the most recent 10-month period for which statistics were available, a total of seven

Cardiothoracic Anesthesia team (L-R) Alan Ross, John Moyers, Srinivasan Rajagopal, David Papworth, Kenichi Ueda

Javier Campos, director, Cardiothoracic Anesthesia Division

lung transplant cases were managed, and the numbers are continuously increasing.

Anesthesia for Patients with Cardiac Disease

The number of patients with cardiac disease requiring noncardiac surgery has increased progressively, and the request for the Cardiothoracic Anesthesia Division to handle these cases has subsequently increased. Of these noncardiac surgery cases, some patients have ischemic or valvular heart disease, while others have had prior surgery for congenital heart disease. Since physicians in the Cardiothoracic Anesthesia Division see these patients frequently, they are familiar with the pathophysiology of each cardiac condition, allowing them to provide skilled and knowledgeable anesthesia care.

Fellowship Program

The Cardiac Anesthesia Fellowship is a one-year program. Each year, one or two fellows experience adult and pediatric cardiac anesthesia, thoracic anesthesia, major vascular anesthesia, and anesthesia for cardiac catheterization. Fellows also have a four-week transesophageal echocardiography (TEE) rotation. Expectations of this program are to acquire competent skills and knowledge for adult and pediatric anesthesia, and to obtain National Board of Echocardiography certification in perioperative TEE. Two previous fellows, Drs. **Thomas Meyer**

(2007 graduate) and **Danai Udomtecha** (2008 graduate), successfully passed the Examination of Special Competence in Perioperative Transesophageal Echocardiography (PTEeXAM) and will receive their board certificates.

Due to technological and pharmaceutical advances, cardiothoracic anesthesia is not as challenging as it was 50 years ago. However, it still remains one of the high-stress and labor-intensive anesthesia specialties. The Division of Cardiothoracic Anesthesia at UIHC makes the best effort to provide safe anesthesia care to patients with cardiac disease and those undergoing cardiothoracic surgery.

Ken-ichi Ueda, MD Associate





Danai Udomtecha, fellow, and Svinivasan Rajagopal at work

Spotlight onJOHN ROWE MOYERS, MD

In 1979, realizing he missed lowa, Dr. Moyers returned to The University of Iowa Department of Anesthesia as Assistant Professor, and quickly moved up the ranks to full Professor in 1990.

The name of Moyers has been both familiar and welcome within the University of Iowa Department of Anesthesia for a great many years. **John R. Moyers**, MD, Professor, is currently an active member

of the department. His father, **Jack Moyers**, MD, served as department head from 1967 to 1977. The contributions of both of these physicians continue to benefit our department today.

Dr. John Moyers was born in Pasadena, CA, where his father was completing a tour of duty in the United States Navy. Soon after, the family returned to its Midwestern Iowa roots. Receiving his bachelors degree from the University of Iowa in 1969 and his medical degree in 1973 after election to Alpha Omega Alpha, John elected to head west for an intern year at the Los Angeles County Hospital, after which he completed a residency in anesthesia at the University of California in San Francisco. Dr. Moyers spent a year as a research fellow in anesthesia at the Cardiovascular Research Institute at the University of California, San Francisco, after which he accepted a position as Assistant Professor in that department. In 1979, realizing he missed Iowa, Dr. Moyers returned to the University of Iowa Department of Anesthesia as Assistant Professor, and quickly moved up the ranks to full Professor in 1990.

Dr. Moyers has enjoyed a very active career that spans departmental, university, and state, national and international groups. He has been active within the Iowa Society of Anesthesiologists (ISA), the American Society of Anesthesiologists (ASA), and the World Federation of Societies of Anaesthesiologists (WFSA). He has served on a record number of committees, many in the capacity of chair. In 1998, he was Chair of the ASA Annual Meeting, a year when the attendance was around 16,500. Since 2003, he has served on the ASA Board of Directors as Director from Iowa. In 1983, he became an Associate Examiner of the American Board of Anesthesiology, a role he still holds. He has served on the Executive Committee for the WFSA since 1992 and recently finished a term as secretary. He is a Past President of the Academy of Anesthesiology, current Secretary of the Board of Trustees of the Anesthesia Foundation, and Chair of the Education Study Section for the Foundation for Anesthesia Education and Research (FAER). Dr. Moyers has served on numerous collegiate, university and hospital committees also. To name only a few, he has participated in Faculty Senate and Faculty Council, the College of Medicine Executive Committee, and the College of Medicine Alumni Society Board of Advisors. Dr. Moyers has published over 100 book chapters, manuscripts, and abstracts. His continued commitment to teaching and mentoring medical students and residents is admired.

Almost 30 years ago, he founded the department's Cardiothoracic Anesthesia Group. The goal then, as it is today, is for fellowship-trained anesthesiologists to provide world-class care to adults and children with cardiopulmonary and vascular disease undergoing surgery of all types in an academic environment.

It would seem that Dr. Moyers has no time whatsoever to enjoy anything outside of his profession. Not true! He is a collector of coins and stamps, and is an active bicyclist and runner. He has completed the Boston Marathon, holds medals received at the Iowa State Games 50-mile cycling road races; completed the 160-mile race around Mount Ranier (Washington) that had a total climb of 10,000 feet, and completed the 200-mile Seattle, WA to Portland, OR Road Race. Dr. Moyers and his wife Katherine have two adult children, Peter and Anna.

DIVISION TEAM

Profile Computer Support Group



Front row: Dan Borders, Tom Smith; Middle row: Jim Lane, Dave Griffiths; Back row: Zach Gorman, Harry Zwez, Dawn Hanna

There is rich history related to the birth and growth of the department's computer team, just as one might predict. Dr. Franklin L. Scamman has been involved from the beginning. He arranged for the purchase of the first computer for the Anesthesia Department about 1980, assembling it himself - a Heathkit H-8, with 16K of memory and two 5.25" floppy drives that held 100K each. It was programmed in a language called Basic. By adding another 32K of memory for \$350, he was able to program it to keep track of anesthesia resident schedules. Its monitor was a black and white television screen. Dr. Mohamed Ghoneim and Dr. Scamman also used this computer successfully in over 240 experiments studying fentanyl and alfentanil.

Shortly thereafter, two other employees in the department, **Paul Hauser** and **Frank Claeys**, began working on computer availability for the entire department. The 8080 processor running at 1 MHz had been available for a few years and was being replaced by the 8086 and Z-80 processors running at a blazing 4 MHz. The common operating system was Control Program for Microprocessors (CP/M) that used about 16K of memory. As the computing needs of

the department grew, both in the offices and the laboratories, the Computer Committee was formed to help control expenses, as a stand-alone PC was about \$4,000 (in 1980 dollars). In an effort to expand use but control cost, Mr. Hauser and Mr. Claeys built a machine that had 7 processor boards in it, one for each terminal, using Multi-Programming Monitor (MP/M) as an operating system. The terminals displayed 24 lines of 80 characters and each secretary had one. Each board had 48K of memory and its own Z-80 processor. The disk drives were 8" and held 300K each. WordStar was the word processor and there are still documents from 1982 residing on Dr. Scamman's current hard drive that he can read! The department's first hard drive was purchased in 1982, held 10 Mb and cost \$3,000. The MP/M system was fantastic until the hard disk drive crashed 3 days before the abstract submission deadline for the annual American Society of Anesthesiologists (ASA) meeting! The department next purchased a standalone computer, named Archive, from a company in Davenport, IA. At that time, the hospital's patient information record system, INFORMM, was still in its

infancy, had no operating room (OR) functions, and Mrs. Donna Jones (Clerk IV, working as OR schedule clerk) had to enter every character in the OR schedule by hand on this computer. The schedule was printed on an impact printer that, at best, printed about 5 characters per second; thus, the OR schedule took 5 minutes to print! Shortly thereafter, with the demise of the MP/M system, the department shifted to IBM® personal computers, one for each secretary, and hard drives were becoming more common. WordStar was still the word processor, using the keyboard for all, as the mouse was still in the future.

In 1986, everything changed. Dr. Michael Todd joined the department, and he brought with him from California an Apple, Inc. Macintosh® computer. Dr. Scamman recalls Dr. Todd hunched over his MacPlus®, with a 9" screen, madly typing away, and using a MOUSE to control his activities! It did not take long for the secretaries to swarm around this new invention and say, "I want one." So, for many years, Macintosh® ruled the department's office area. Macintosh® also had a new feature called AppleTalk®, a network allowing the entire office to share one printer and to transfer files to each other. About 1990, the hospital declared that it would be a Windows®-based world and our department has used both platforms ever since.

In addition to the individuals recognized earlier in this article, several others contributed to the progress and success of the computer support group during the 1980s and 1990s: Phyllis Jadryev, Saham Khozestani, Sean Lento, Larry Minthorn, Paul Trowbridge, J. Duncan Woodward, and probably several others inadvertently not mentioned.

DIVISION TEAM Profile continued

Today, we have faster processors, more memory, larger hard drives, and GoogleTM. A personal digital assistant (PDA) has more power than large mainframes of yesteryear, but the basic function of facilitating exchange of information has not changed. As the University of Iowa Hospitals and Clinics and the Department of Anesthesia move forward with implementing EPIC, our new healthcare information system, including bringing up our electronic anesthesia information system with a fully-powered workstation on every anesthesia machine, the goal has not changed - putting information in the hands of the user.

Today the management for the department's approximately 450 computers requires a support staff of five full-time staff, as well as the assistance of two to three students. Of those 450+ computers, approximately

well beyond this. Each member of the team has their special areas of expertise and responsibility; collectively, they are credited with much more than the typical definition of "computer support."

Jim Lane, Program Associate II, became the supervisor of the Computer Support Group in the fall of 2001, providing administrative and some functional supervision. He serves as a buffer for the group, keeping them from becoming inundated with a million requests. Jim works with the group to review project requests and establish priorities and timelines, as well as policies and procedures.

Dave Griffiths, Systems Administrator and System Programmer II, has been with the department for 20+ years. Dave is

> in charge of the computer group and his duties include computer support for: billing (EPIC and IDX); residency program; wall displays around the department; Datex servers and network for the main operating rooms;

database management and web development; user support for INFORMM and IPR.

Tom Smith, Applications Developer and Support II, slowly started moving from doing less research to more computer work in the department about 1998. He currently maintains the infrastructure of the web server and the database. Two of his projects have been to develop the faculty e-Schedule and incentive system. He also works closely with Dr. Todd and

other faculty members to create and provide reports specific to their needs.

Zach Gorman, Information Technology Support Services I, has been with the department just over 3 years now. Though his primary responsibilities include supervising the Anesthesia Computer Support Group Help Desk, they are not limited to only that. He is very willing and open to new and interesting roles, recently coordinating the 2008 Iowa International Symposium in Cabo San Lucas, Mexico for example. Zach also fills the role of specialist regarding the department's Apple® computers.

Dawn Hanna, Applications Developer and Support I, has been with the computer group for a year, and with the department for almost five. As Webmaster, she keeps busy updating Internet and intranet home page news. While her main focus is on redesigning our department's web site, she continues to work on the department's web-based calendar as the need arises.

Harry Zwez, student computer technician, has worked in the department since August of 2006. He creates, updates, and maintains web pages for the Department of Anesthesia. Harry also supports, and installs PC and Mac® computers, printers, and some handheld devices. On occasion, he helps out with the Patient Simulation Center audio system and other electronics.

Dan Borders, student computer technician, has been with the Department of Anesthesia since September of 2007. He provides computer support assistance to Anesthesia staff including troubleshooting, configuration, set-up, and installation of computer systems and software.

If you were to ask any member of the department whether the Computer Support Group is important to the operations of the department, you would receive a resounding, "Yes, this team is critical to us!" Technology has advanced considerably since our department saw its first computer in 1980, and undoubtedly, we will continue to move forward right along (or even ahead!) of the trend – thanks to this dedicated team of professionals.



L-R: Zach Gorman, Dave Griffiths, Tom Smith, Dawn Hanna, Jim Lane

300 are Dells, 100 are Apples, and 20 are Hewlett-Packard, with the remainder miscellaneous other makes. In order to more efficiently process the specific needs of individual users, a Computer Help Desk Request Page was developed within the intranet side of the department's web site. In its first year alone, over 1,000 help desk requests were managed. Supporting the technical needs of the faculty and staff is a major responsibility of the Computer Support Group. However, their contribution to the department goes

NOTE: The Newsletter staff is pleased to publish our first internally peer reviewed, faculty authored Clinical Practice Update. We look forward to providing additional articles in future issues.

Clinical Practice UPDATE

Anesthesia for Electroconvulsive Therapy: A Review Yasser Karim, MB, BCh, FFARCSI*

Electroconvulsive therapy (ECT) is a psychiatric therapy involving the electrical initiation of seizure activity in the brain, via electrodes placed on the scalp. Between 100,000 and 200,000 patients annually undergo ECT in the United States. Its effectiveness in treating certain forms of severe mental illness is recognized by all American and most international psychiatric and medical organizations. ECT antidepressant response rates vary from below 20% to 70% or higher, depending on the combination of stimulus intensity and electrode position.¹

History

In the early 1930s, it was noted that patients with schizophrenia would sometimes improve after suffering spontaneous convulsions.² This led to therapeutic efforts using hypoglycemia (insulin) or chemically induced (pentylenetetrazol) seizures.^{3,4} Neither was satisfactory because seizure onset and duration could not be controlled. However, in 1938, external electrical induction of seizures in animals was first demonstrated⁵ and, within a very short time, ECT was introduced into clinical practice. Since pharmacologic treatment

Yasser Karim ¹₂ publication July 9, 2008.

*Clinical Assistant Professor, Director, Electroconvulsive Therapy Service, Department of Anesthesia, University of Iowa Carver College of Medicine, Iowa City, IA. Submitted for publication June 17, 2008. Accepted for of schizophrenia was not available, this method was soon established as the primary treatment of this disorder.⁶

Prior to 1959, ECT was administered without general anesthesia. Not surprisingly, seizures were sometimes complicated by severe muscle pain, as well as both spine and long bone fractures. Neuromuscular blocking agents were sometimes used: curare in 1940,7 gallamine in 1949,8 and succinylcholine in 1951.9 Unfortunately, the induction of seizures in awake and sometimes partially paralyzed patients was a frightening experience. This limited patient and physician acceptance of the technique and resulted in somewhat widespread condemnation of its use. Finally, in 1959, methohexital was introduced,10 and by the 1960s, the use of short acting intravenous barbiturates and succinylcholine became accepted as a simple, safe regime in ECT.11

Mechanisms of Action

While the precise mechanism by which ECT exerts its therapeutic effect is unknown, there are several possibilities. ECT disproportionately increases metabolism and blood flow in the anterior cingulate cortex, the generator of theta rhythms [4-7 Hz]. According to written communication (Laurie M. McCormick, MD, June 2008), activity in this range is subnormal in patients with depression and psychotic disorders; increasing the relative amount of theta activity may be one explanation

for ECT's effectiveness. Serotonin (5-hydroxytryptamine, 5-HT) is one of the most important neurotransmitters involved in depressive illness. 5-HT_{1A} and 5-HT₃ receptors in postsynaptic neurons are sensitized by repeated ECT, and this change induces a decrease in the number of 5-HT_{2A} receptors that are elevated in depressive patients.¹²

ECT also increases the release of noradrenaline and dopamine from the locus coeruleus and substantia nigra respectively by acting on noradrenaline and dopamine receptors. In practical terms, efficacy depends on the electrical stimulus inducing an electroencephalographic picture similar to that seen during spontaneous, tonic/clonic grand mal seizures. Seizure duration is also critical; stimulus intensity should be adjusted to achieve seizure duration of between 25 and 60 seconds.6 The typical course of treatment depends on the patient's response, but is usually 6-12 treatments.

Indications

ECT is considered in patients who are medication-resistant or diagnosed with severe depression, particularly when associated with delusions or suicidal ideation and/or attempts. Its use is also considered in cases of acute mania or catatonia in patients not compliant with oral medications. Patients suffering from acute psychosis associated with acute schizophrenia are candidates for ECT.

Contraindications

Patients who do not generally meet the criteria for ECT as a treatment protocol are those with acute medical conditions such as respiratory infection, those who have experienced myocardial infarction or stroke within 6 months, or patients with uncontrolled hypertension, dysrhythmias, congestive heart failure or angina. A patient receiving anticoagulant therapy with an international normalized ratio of greater than three also negates using ECT therapy, as does the diagnosis of intracranial hypertension, glaucoma or retinal detachment.

Drug Interactions with ECT

A number of medications commonly taken by patients with serious psychiatric disorders can complicate ECT. Tricyclic antidepressants such as imipramine can exaggerate the hypertensive/ tachycardic response to induced seizures and can prolong the hypnotic effects of barbiturates. Monoamine oxidase inhibitors such as phenelzine may prolong the duration of succinylcholine and, in patients taking these drugs for less than 3 months, may increase the risk of dysrhythmias.¹³ There appears to be no adverse effects in patients taking monoamine oxidase inhibitors for longer than 3 months.

Selective serotonin reuptake inhibitors such as sertraline appear to be safe for ECT patients. By contrast, lithium potentiates the action of both barbiturates and succinylcholine and may also prolong the duration of seizures. Its use is also associated with postseizure delirium or organic brain syndrome. This is the only commonly used drug that the American Psychiatric Association recommends be discontinued 36-48 hours before ECT and held until 24-36 hours after the final ECT treatment.

Anesthetic Management

Evaluation

Evaluation is similar to that for any patient having general anesthesia, but with particular attention paid to several issues:

 Patients with severe osteoporosis are at risk for vertebral or long bone fractures if muscle relaxation is not sufficient to modify the motor activity. Such patients should have spine radiographs taken before the first treatment to

- establish a baseline with which to evaluate any future episodes of bone pain.
- Patients with loose or fractured teeth, or jaw instability, have additional risk due to clenching movement elicited by direct stimulation of the masseter muscles at the time of electrical stimulation.
- Cardiovascular evaluation is important to ensure well-controlled blood pressure and heart rate. Potassium and calcium should be normal in patients on diuretics and digoxin, or with renal failure. In patients with atrial fibrillation, heart rate should be below 70/min. These patients should be on an anticoagulant to avoid the risk of embolization during seizure.
- Gastroesophageal reflux should be excluded. Those with a positive history should receive preprocedure antacid and H2 receptor antagonist therapy.

Consent

Obtaining patient consent is sometimes difficult, given the impact of the patient's psychiatric disorder. The psychiatrist must obtain written consent from the patient or, if the patient is too ill to make decisions, from a court-appointed guardian. Under the American Psychiatric Association's recommended "informed consent" protocol, permission to administer ECT comes after a careful review of the treatment. The person consenting to the procedure is kept informed of progress as the treatment continues, and may withdraw consent at any time.

Separate consent for anesthesia is needed and can be obtained for the entire course of treatment, rather than separate consents for each treatment. That consent should focus on specific anesthetic complications related to ECT.

Preemptive medications

Most patients receive either glycopyrrolate or atropine to prevent bradycardia and to reduce excessive salivation. Some patients required ketorolac for headache or muscular pain. Caffeine lowers the seizure threshold in patients who required higher currents. If nausea is an issue, ondansetron is the drug of choice. Agitation may be well controlled by administration of

lorazepam and or haloperidol immediately after delivery of the shock.

Induction Agents

The ideal anesthetic agent for ECT would ensure rapid unconsciousness, be painless on injection, have no adverse hemodynamic effects, not substantially alter either seizure duration or amplitude, provide rapid recovery with nausea or vomiting, and be inexpensive. Unfortunately no drug has all these characteristics. [See Table.]

Alfentanil (10 μ g/kg) with methohexital (0.5 mg/kg) or propofol (0.5 mg/kg) has been reported to increase motor seizure durations. A Remifentanil (1.0 μ g/kg) with methohexital (0.5 mg/kg) also had been reported to prolong motor seizure duration. A Remifentanil (4-8 μ g/kg) has been used as a sole induction agent to improve the ECT seizure response in 24 patients who became refractory to a maximum setting on ECT device when using the standard methohexital induction regimen.

Neuromuscular Blockers

Neuromuscular blockers are essential to prevent fractures, dislocation and myalgias. The current standard is succinylcholine, due to its rapid onset and short duration of action. Doses between 0.75-1.5mg/kg are used, with larger doses in patients at risk for musculoskeletal complications. If there are contraindications to the use of succinylcholine, nondepolarizing agents are the alternative, but that leads to longer procedural durations. The pending introduction of sugammandex may result in the wider use of rocuronium, and may result in a decrease in the use of succinylcholine. ¹⁷

Assessment of neuromuscular block should be done before administration of the electric shock to ensure sufficient relaxation and adequate reversal prior to transferring the patient. This assessment may be achieved by using a nerve stimulator.

Specific Procedural Recommendations

- Standard monitors attached to the patient, with blood pressure cycles every minute
- 45-degree head-up position
- Preoxygenation for at least 3 minutes

Comparison of Induction Agents Used for Electroconvulsive Therapy

	Effect On									
Drug	Seizure Threshold	Seizure Duration	CVS	Onset	Speed of Recovery	Emesis	Injection Pain	Adrenaline Suppression	Involuntary Movements	Indications
Methohexital	Minimal	Minimal	Minimal	Fast	Fast	Minimal	+	_	++	Drug of choice
Thiopental	Raise	Shorten	Minimal	Fast	Slow	Minimal	-	-	-	When rapid recovery is not an issue
Etomidate	Reduce	Prolong	↑ BP + HR	Fast	Fast	Moderate	+	++	++++	When you need to lower threshold and/or prolong duration of seizure
Propofol	Raise	Shorten*	↓ BP + HR	Fast	Fast	No	++	-	+	When you need to suppress CV response
Ketamine	Raise	Shorten	↑ BP + HR	Fast	Very slow	Moderate	-	-	++	When you need to improve CV response
Sevoflurane	Raise	Shorten	↓ BP + HR	Slow	Fast	Minimal	-	-	-	When it is difficult to gain venous access
Remifentanil	No	Increase	↓ HR with or without ↓ BP	Slow	Very slow	Moderate	=	-		When you need to lower threshold and/or prolong duration of seizure

^{*}However, 1mg/kg has minimal effect on duration.

- Administration of the anesthetic agent and succinylcholine doses based on ideal body weight
- Maintenance of upper airway
 patency by manual jaw thrust, use
 of oral and/or nasal airway devices, or
 even supraglottic airway devices (e.g.,
 laryngeal mask airway)
- Insertion of a bite block in all cases, even in the presence of a laryngeal mask airway
- Minimization of face mask ventilation to avoid intubation of morbid obese; airway pressure not to exceed 20 cm. sater; patients with GERD and BMI of 25 or less managed without need of positive pressure ventilation

Most patients develop tachycardia and hypertension immediately after the seizure response. If these are sustained, interference is required.

Record Keeping

It is very important to keep an adequate anesthetic record since this record can act as a template for subsequent treatments. If the patient has a problem during the first procedure, modification of subsequent anesthetics can be instituted.

Control of Autonomic Responses
Most patients develop tachycardia and

hypertension immediately after the seizure response. If these are sustained, interference is required.

Complications

The central nervous system response consists of tonic/clonic motor seizure, increased intracranial pressure, and cerebral blood flow by 130%. Short-term memory loss is common. It is worse immediately after treatment, subsiding within days or a few weeks after a course of therapy is completed. Retrograde memory impartment is more severe after bilateral than unilateral ECT. Headache is common. Muscular pain and nausea are less common. Confusion and/or agitation are seen in some patients.

A cardiovascular response is usually in the form of tachycardia; hypertensions of variable bradycardia, and even asystole of variable duration, do occur in some instances. A sudden rise in intragastric pressure may lead to pulmonary inhalation, especially in a patient at high risk for regurgitation placed in a flat position for the procedure. A rise in intraocular pressure may lead to retinal detachment in a highly myopic patient. Glaucoma patients are also at higher risk.

Postprocedure Management

Postseizure occasionally is accompanied by varying degrees of agitation, confusion in 10-20% of cases, and very rarely violent behavior, especially in alcoholic, manic, or paranoid patients. Once any one of these behaviors occurs, it tends to be recurrent after each subsequent treatment, irrespective of improvement in mental state. It may be controlled by intravenous administration of midazolam, 1-2 mg, haloperidol up to 2.5 mg, methohexital, or propofol.

Conclusion

ECT is a brief procedure performed mainly on patients diagnosed with drugresistant depression and other psychiatric disorders. The resulting electric stimulus produces vigorous generalized tonic and colonic muscular contraction accompanied with acute hemodynamic changes. Thus, anesthesia is required to guarantee unawareness and muscle relaxation, as well as to control the acute hemodynamic responses. Because the effectiveness of the ECT treatment is dependent on achieving adequate EEG seizures of 25 seconds, the anesthesiologist should use anesthetics with minimal effect on seizure threshold and duration. Methohexital in comparison to the other available intravenous induction agents fulfills those requirements.

[↓] Decrease. ↑ Increase. + Mild. ++ Moderate. +++ Severe. ++++ Very severe. □ No effect.

CVS = cardiovascular system; BP = blood pressure; HR = heart rate

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resident research with Faculty Mentorship



The Midwest Anesthesia Residents Conference (MARC) 2008 was held April 4-6, 2008, in Indianapolis, IN. The University of Iowa Department of Anesthesia residents represented themselves and the department in an exceptional manner. Our residents gave a total of 17 presentations during MARC. Each did an outstanding job in the midst of stiff competition from 30 other departments of anesthesia. Dr. **Smith Manion** won two first place awards in separate sessions for his presentations, "Blood Pressure Measurement in Mastectomy," and "Intraoperative Airway Obstruction." Dr. **Shea Trost** also won a first place award for his presentation entitled "Bilateral Lower Leg Compartment Syndrome following Total Colectomy: Did a Thoracic Epidural Play a Role?" Dr. **Mazen Maktabi** holds the role of MARC Faculty Coordinator for Iowa.

Mazen Maktabi

MARC 2008 Abstract Submissions

Revisiting Cushing's Triad, Cohen, Jonathan*

NGF Expression in Muscle after Plantar Incision Erickson, Mark*; Wu, C.; Brennan, Timothy

Wide Complex Tachycardia of Undetermined Origin Franklin, Michael*; Maktabi, Mazen

Intracranial Hemorrhage in a Patient with Severe Preeclampsia and HEELP Syndrome, Grady, Matthew*; Hindman, Bradley

Airway Obstruction following an Anterior Cervical Fusion Hadder, Brent*; Whitter, Tyrone; Maktabi, Mazen

Intraoperative Myocardial Ischemia

Hadder, Brent*; Hindman, Bradley; O'Sullivan, Cormac

Probable Venous Air Embolism in an Infant Undergoing Craniosynostosis Repair

Kadakia, Shivani*; Titler, Sarah; Maktabi, Mazen

Regional Analgesia Catheter Complications in the ICU: Findings from the Regional Anesthesia Surveillance System

Kelley, Jessica*; Laur, John; Schulz-Stubner, Sebastian

Tension Pyopneumothorax: Conventional Treatment for an Unconventional Disease, Lance, Robert*; Szeluga, Debra

Blood Pressure Measurement and Mastectomy

Manion, Smith*; Bates, James

Spinal Anesthesia in an Infant with a Varian of Epidermolysis Bullosa, Palecek, John*; Choi, James

Asystole on Anesthesia Induction in Adults: Don't Blame the Succinylcholine Alone, Setty, Sundarshan*; Kumar, Avinash

Incidence and Risk Factors Predisposing to Coagulopathy in Patients Receiving Epidural Analgesia for Major Hepatic Surgery Shontz, Robert*; Karuparthy, Venkateswara; Temple, Robert; Brennan, Timothy

Bilateral Lower Leg Compartment Syndrome following Total Colectomy: Did a Thoracic Epidural Play a Role?

Trost, Shea* Choi, James; Menhusen, Monty

*Represents resident involved in research project.

MEDICAL STUDENT ANESTHESIA

Extern Highlights

2008 Graduating Medical Student Anesthesia Externs Awards In 2007-2008, we were fortunate to have 12 dedicated M4 students working in our department. We recognized these students during a ceremony on Wednesday, April 30, 2008, by distributing certificates certifying their participation in our extern program and thanking them for their service. In addition, special honors were awarded to the recipients of the Stuart Cullen Award and the Margaret V. Lunsford Award.

The Stuart Cullen Award is voted upon by the anesthesia residents and awarded to a senior student who, by scholastic achievement and clinical performance, has demonstrated outstanding capabilities in the field of anesthesiology during the senior clerkship in the department. A monetary gift accompanies this award. Jessica Kelley was selected as the 2008 recipient. She has now joined us for her residency in anesthesia as of July 2008. Dr. Cullen, who attended medical school at the University of Wisconsin and completed a residency in anesthesia at Belleview Hospital in New York, was recruited to The University of Iowa in the fall of 1938 as the Chief of the Anesthesia Division, a component of the Department of Surgery. Under Dr. Cullen, the program flourished by the late 1940s. While principally known as a clinician and educator, he understood the importance of research. Dr. Cullen left Iowa in 1958 to become Chair of the Department of Anesthesia at the University of California, San Francisco, a decision based to a great degree on his never being able to attain departmental status for anesthesia at Iowa.

The Margaret Lunsford Award, gifted to 3 senior medical students in 2008, is determined via application and recommendation, and

a committee selects recipients. Dr. Margaret V. Lunsford was born in Oskaloosa, Iowa in 1911, received her medical degree from The University of Iowa College of Medicine in 1941, and completed one year of residency training in anesthesiology here at Iowa from 1942-43. She married and moved east with her husband, practicing anesthesiology until her retirement in 1977. A bequest from the estate of Dr. Lunsford was established according to her wish to provide scholarships for trainees entering the field of anesthesiology. 2008 recipients are Jessica Kelley, Raina Lourens, and Thomas Rinehart. Ms. Kelley began her anesthesia residency at the University of Iowa in July 2008. Ms. Lourens will complete a transitional year at the University of Iowa, and looks forward to spending her PGY-2 through PGY-4 years of anesthesia residency at The Johns Hopkins University. Mr. Rinehart will complete a transitional year at Legacy Emmanuel/Good Samaritan in Portland, Oregon, after which he will join an anesthesia residency program at the Oregon Health Sciences University.

2008-2009 Medical Student Anesthesia Externs

We were pleased to welcome 12 University of Iowa Carver College of Medicine M4 students to our team in late spring. After receiving an extensive orientation to the department, and specifically to the operating room area, these students work evenings and weekends, providing assistance and gaining experience. An application and selection process determines those offered to participate in this program, and each applicant has expressed a special interest in the specialty of anesthesiology.

2008-2009 Anesthesia Externs



ANESTHESIA

Resident Highlights

The department experienced a smooth transition as we bid farewell and best wishes to the 15 residents who completed their program in June and at the same time welcomed 11 anesthesia interns and five CA-1 residents.



Back row (L-R): Anthony Berg, Robert Shontz, Sarah Titler, Christopher Faust, Thomas Hogan, John Palacek Front row (L-R): Thomas Cannon, Clinton Rozycki, Chandra Beals, Shivani Kadakia, Shea Trost, Brent Hadder Not pictured: Nicholas Aerosalphal, Stephanie Davis, Wendy Wallskog

Department of Anesthesia House Staff 2008 - 2009

1st Year Residents



Waseem Ahmed, MD



Rebecca Floyd, MD



Kira Fraser, MD



Courtney Hancock, MD



Jerry Hine, MD



Anurang Johri, MD



Jessica Kelley, MD



Molly Kelly, MD



Kristin Knopke, MD



Jessica Leinen, MD



Tejinder Swaran

Department of Anesthesia House Staff 2008 – 2009

New Additions to 2nd Year Residents



Major Boateng, MD



Lee Kimbal, MD



John Klein, MD



Somchin Puangsuvan, MD



Michele Tarasi, DC, DO

MEET THE 2008 - 2009

Chief Residents



Chief Residents Marty Hove and Smitty Manion

While the official start date for chief residents is July 1st, the incoming chiefs typically begin their involvement long before that date, learning more about the role and transitioning into its responsibilities for several months prior to July. The selection by peers and faculty to serve as University of Iowa Department of Anesthesia Chief Residents is considered equally an honor and a responsibility. The 2008-2009 Anesthesia Chief Residents are **Martin A. Hove**, MD, and **Smith C. Manion**, MD. When not being referred to as Dr. Hove and Dr. Manion, these gentlemen prefer to be called Marty and Smitty.

Marty Hove was born in Ames, Iowa and raised in the small rural town of Stanhope. He has experience in a variety of jobs including being a farmhand, planting landscaping, and working in warehouses. His heart was set on a career in medicine at the age of seven years old, when he broke both arms and some ribs from a fall. He was comforted by the reassuring confidence of the physician that took care of him and was inspired to provide the same to others. After high school graduation in 1996, Marty attended the University of Iowa, where he graduated with a bachelors degree in biology, minoring in religion. He also selected The University of Iowa for medical school. His interest in anesthesia came during his second year when the anesthesiologist facilitating a small group exercise convinced him it was the "coolest" profession. This interest was solidified when he participated in the anesthesia extern program during his M4 year. Marty describes his wife, Keri, as "amazing," and their two children, Estella (2 years old) and Kellen (6 months old) as "wonderful." Upon completion of his residency, the Hove family plans to broaden their horizons by traveling abroad for a year, during which time Marty hopes to further his knowledge of anesthesia by learning the practice in other parts of the globe.

Smitty Manion, born in Kansas City, Missouri, was the baby brother to three older sisters. After graduating in 1977 from

Rockhurst High School, an all-boys Jesuit school in Kansas City, he headed toward his parents' home state of Minnesota, attending St. Olaf College in Northfield as a biology major. Summer employment was in an experimental surgery laboratory at the University of Minnesota. It was during this cardiothoracic surgery research that Smitty first became enthralled with anesthesia, and he carried this interest into medical school at the University of Missouri-Columbia. During medical school, Smitty was paired up as a cadaver-dissecting partner with the most ingenious person he has ever known; he subsequently married Elizabeth during their third year of medical school! Smitty and Elizabeth have made their first step toward a family by obtaining a pseudo-child in their yellow labrador, Brewski. Smitty is utterly obsessed with epidural analgesia and is planning for a fellowship in pain medicine upon completion of his residency.

Drs. Hove and Manion are appreciative of the accomplishments of those who have served as chief residents before them. They will continue with responsibilities such as serving as liaison between the residents and the staff, and they look forward to an active resident applicant interview process, meeting with each applicant and contributing to the evaluation process. They plan to work on developing an objective system for making the call schedule, allowing each resident to be treated equally in the process. They plan to facilitate increased involvement of both interns and the more junior residents in the department. They view their role as chief residents as an opportunity to increase the solidarity of residents as a group by organizing and encouraging social events. Both Marty and Smitty feel prepared to work closely with our new Resident Program Director, Debra Szeluga, PhD, MD, advocating for continued improvements in resident education. Their collective goal is to contribute to the longstanding and strong tradition of excellence in education and training within the department's residency program.



L – R: Rob Shontz and Clint Rozycki (outgoing chief residents) with Smitty Manion and Marty Hove (incoming chief residents)

Follow This Resident

Lakshmi Kantamneni, M.D.

The newsletter staff is pleased to provide the following update on life as an anesthesia resident at UIHC, which is a continuation of Dr. Kantamneni's report published in the fall 2006 issue of the newsletter.

I'm now beginning my CA-2 anesthesia residency year at the University of Iowa Hospitals and Clinics (UIHC). I call Iowa City home because my family moved to Iowa City from India when I was six years old. I completed my undergraduate



education at The University of Iowa, as well as attending medical school here. My decision to go into the specialty of anesthesia was an easy one, as I was drawn to it within my first few days as a medical student. The focus on physiology and pharmacology in an operating room (OR) setting was very attractive.

As I look back on the past year, I find myself reflecting on the first few months of my basic anesthesia training. I was excited to finally focus my training in anesthesia, but I was also overcome with the realization that I really had very little experience in the OR. I remember being keyed up about everything from making sure I had enough oxygen in the emergency cylinder, to drawing up medications into a syringe, to inserting a patient's intravenous line before surgery. Each step was new and provided a constant learning experience. My mind ran a continuous checklist of what to have ready, what to do next, and in what order. I tried to be a sponge, learning all I could from faculty who had been practicing for years.

The first few months were difficult, and I think the most important thing I learned is how quickly things can change and how important it is to plan and prepare in advance for things that may happen. This lesson led me to be truly terrified for another three months. One of my first weeks in the OR, the faculty physician and I attempted to intubate a gentleman for a routine elective case. We had planned a rapid sequence induction, and on first laryngoscopy all that was seen were secretions. By the time these were suctioned and removed, the patient began to desaturate to the low 80s. The next laryngoscopy led to intubation of the esophagus, and before I knew it, the oxygen saturation was in the 30s. Fortunately, we initiated a "stat page" using the overhead microphone system. With help of other anesthesia staff, the patient was masked back to 100% and intubated with no difficulty. Taking that action helped me learn a lesson, perhaps one of the most important ones I'll learn in my entire career. It was the first time things didn't go as planned and the first time I really realized all the complications that can occur. Ultimately, this experience led me to prepare for my cases in a different way, and to plan and think about common problems that could arise and how I'd manage them. It taught me to be vigilant in the OR, to keep track of seemingly small issues before they became a problem.

As the year progressed, I became much more comfortable with my duties. It was satisfying to learn how to do combined spinal-epidurals in obstetric cases and see almost instant relief of pain in laboring women. My cardiac rotation led me to be more comfortable with arterial lines, central lines, vasopressors, and double lumen tubes. Exposure and experience in neuroanesthesia cases improved my confidence in performing fiberoptic intubations. The regional anesthesia rotation allowed me to review my anatomy and learn to perform blocks under ultrasound guidance. Each rotation has allowed me to focus on different subjects within my anesthesia training and all have been interesting in different ways.

Perhaps the most comforting part of my training has been the emotional and technical support of both the residents and faculty. The anesthesia resident lounge has become a place where I can clear up questions with seniors and hear stories of issues that arose in other operating rooms. It is also a place to vent when things are frustrating, as well as a place where I've developed close relationships with many friends. Faculty have also played a critical role in my development, taking time in the OR to go over a subject, or teach the technicalities of positioning for an arterial line, or assist with a potentially difficult intubation. I plan to continue to learn as much as I can from these faculty with years of experience.

People have asked me how I'm enjoying my training in anesthesia, and I honestly feel like I've chosen the best specialty for me. I appreciate the acute setting of the operating room and enjoy preparing for an anesthetic that suits the surgeon's and patient's needs. As I continue on in my CA-2 year, I look forward to having more advanced training in anesthesia. I especially look forward to my rotation in pain medicine, as this was a rotation I really enjoyed during my internship and an area in which I'm considering doing a fellowship.

ANESTHESIA

Fellowship Highlights

Department of Anesthesia Fellows 2008 - 2009



James Brunz, MD Pain Medicine



Jules Chehade, MD Regional Anesthesia



Hai Duong, MD Pain Medicine



Brent Hadder, MD Critical Care Medicine



Linda Hodges, DO Critical Care Medicine



Sundar Krishnan, MBBS Cardiothoracic Anesthesia



Elizabeth Marshall, MD Surgical Critical Care Medicine



Amer Nouh, MD Pain Medicine



Sean Overton, MD Critical Care Medicine



Kei Togashi, MD Cardiothoracic Anesthesia



Bhavin Vyas, MD Regional Anesthesia



Gary Weide Jr, DO Critical Care Medicine

Mark your calendars!

Upcoming Iowa Anesthesia Department CME Conferences

Each conference offered through our department is approved for allowance of CME credits to the participating professional. Detail regarding the upcoming conferences can be found on the department's web site at http://www.anesth.uiowa.edu. Should you have specific questions regarding a conference, you may e-mail or call the College of Medicine CME office contact, Lori Bailey Raw. She can be reached via e-mail at lori-bailey@uiowa.edu or by telephone at 319-3335-8599.

Regional Anesthesia Study Center of Iowa (RASCI) October 4-5, 2008; December 6-7, 2008

Operations Research for Surgical Services October 3-6, 2008

Iowa Conference on Hyperbaric Applications and Treatments (I-CHAT) October 4, 2008

Iowa Airway Workshop November 1, 2008

Iowa International Anesthesia Symposium III March 6-11, 2009

Iowa Anesthesia Symposium IX May 2-3, 2009

Other Upcoming Events

The following special events are being planned. Mark the dates on your calendars, as we welcome you to join us. Contact Barb Bewyer via e-mail at barbara-bewyer@uiowa.edu or by telephone at 319-353-7559.

University of Iowa Homecoming Weekend September 26-28, 2008

All-department Annual Picnic Sunday, September 28, 2008

Alumni reception during annual ASA meeting Saturday, October 18, 2008 6:00 – 9:00 p.m., Salon 10, Rosen Plaza, Orlando, FL

Achievements and Awards

Trainees Honor Faculty

The "Resident Teacher of the Year Award" and the "Resident Excellence in Teaching Awards" were established to pay tribute to those faculty members that excel in resident education. The residents vote on these awards based on teaching inside and outside of the operating room. The winners of these honors do a wonderful job of combining multiple realms of education. These include hands-on technical training, intraoperative teaching related to the cases they oversee on a daily basis, and organized didactic lectures. The awards were presented at the resident graduation dinner on June 22, 2008.

L-R: Bradley Hindman, James Bates, Ken-ichi Ueda, Franklin Scamman,

CONGRATULATIONS to **Ken-ichi Ueda**, MD, who received the "Resident Teacher of the Year" award for the 2007-2008 academic year. This is the second year in a row that Dr. Ueda has

been selected for this award. The "Resident Excellence in Teaching" awards were given to **James Bates**, MD, PhD, **Bradley Hindman**, MD, **Avinash Kumar**, MD, and **Franklin Scamman**, MD. Each of these individuals has also been previously awarded by our residents for their commitment to the superb education of this group.

Faculty Promotion



J. Steven Hata

The Iowa Board of Regents recently approved the promotion of **J. Steven Hata**, MD, to the rank of Clinical Professor of Anesthesia. Dr. Hata received his medical degree from the University of Missouri in Columbia, MO, in 1980, completed a residency and fellowship in internal medicine at the University of Iowa Hospitals and Clinics (UIHC) in 1983 and 1984 respectively, after which he completed fellowships in critical care medicine at the University of Pittsburgh, Pittsburgh, PA (1985) and pulmonary medicine at UIHC (1987). In 1991, Dr. Hata completed a residency in anesthesia at Iowa and he completed a masters degree in epidemiology here in 2006. He held numerous academic positions both at the University of Missouri-Columbia and UIHC from 1986 through 1998, returning to Iowa in 1998 as Associate Professor of Anesthesia, Director of the Surgical Intensive Care Unit, Director of the Critical Care Fellowship program, and Director of the Division of Critical Care Medicine.

Resident Program Director Appointment

A change in resident program management was introduced in July, with the appointment of **Debra Szeluga**, PhD, MD, as Resident Program Director. Dr. Szeluga received her doctorate in human nutrition from Cornell University in Ithaca, NY, her medical degree from

Rush Medical College in Chicago, IL, completed a residency in anesthesia at The Johns Hopkins School of Medicine in Baltimore, MD, and a fellowship in critical care medicine at Harvard Medical School, Beth Israel Deaconess Medical Center, Boston, MA. She joined the Department of Anesthesia at the University of Iowa Hospitals and Clinics (UIHC) in 1999 as Assistant Professor, and was promoted to Associate Professor in 2007. Dr. Szeluga is also Director of the Anesthesia Urology Division and Medical Director of the Post Anesthesia Recovery Unit, in addition to serving on several UIHC advisory committees. She served as Associate Director of Resident Education from 2005 until her current appointment as Director. **Tara Hata**, MD, served as Resident Program Director for four years prior to Dr. Szeluga's appointment. Dr. Hata looks forward to new academic and clinical challenges within the department, and will serve as Associate Director of Resident Education. The transition of our residency education program has gone very smoothly, and the department is grateful to both of these physicians for their commitment.



Debra Szeluga

Lunsford Fellowships Completed



John Laur

John Laur, MD, and **Christina Spofford**, MD, PhD, are the first graduate recipients of the Margaret Lunsford Fellowship Award. Dr. Laur completed a program in regional anesthesia and Dr. Spofford

completed a program in pain medicine research. Both of these physicians have accepted Associate

positions in our department. A bequest from the estate of Dr. Lunsford was established according to her wish, which was to provide scholarships for trainees entering the field of anesthesiology.



Christina Spofford

Wood Library-Museum Fellowship Award

Franklin L. Scamman, MD, Professor, was recipient of a fellowship from the Wood Library-Museum (WLM) of Anesthesiology. His fellowship is for two weeks at the WLM located at the American Society of Anesthesiologists (ASA) Headquarters in Park Ridge, IL. He will spend his time there working to catalog, digitize, and index their audio and visual collection, and making the Living History collection available online. The Board of Trustees of the Wood Library-



Franklin Scamman

Museum created the Wood Library-Museum Fellowship in Anesthesiology to provide recipients with financial support for up to three weeks of scholarly and historical research at the Wood Library-Museum pertaining to the specialty of anesthesiology.

Faculty Senate Appointment

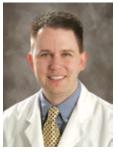


Donna Hammond

Recently, **Donna L. Hammond**, PhD, was elected to a three-year appointment on the University of Iowa Faculty Senate. Dr. Hammond holds a joint appointment as Professor in the Departments of Anesthesia and Pharmacology, and currently serves as Interim Head of the Department of Pharmacology. The Faculty Senate is composed of representatives of all academic units of the University, and serves as the channel of communication between rank

and file faculty members and the central administration of the University. In addition, Dr. Hammond also serves on the Faculty Council, which is a smaller body of elected Faculty Senators. This group meets to discuss issues of current importance, and to prepare action suggestions for submission to the Faculty Senate.

Disaster Board Certification Earned



Ionathan Simmons

Jonathan S. Simmons, DO, MSc, FCCP, Clinical Assistant Professor, is the first physician in Iowa to receive board certification in Disaster Medicine through the American Board of Physician Specialties (ABPS). Certification allows integration of the best of each medical specialty to improve disaster preparedness and response, and all Board members commit to constantly advancing the science and practice of disaster medicine. This board certification was a

culmination of additional study in disaster medicine and completion of a masters of science degree in Biosecurity and Disaster Preparedness through Saint Louis University's Institute for Biosecurity in August 2007. Dr. Simmons is involved as a Deputy Commander for the Federal IA-1 Disaster Medical Assistance Team (DMAT) and is commander of one of five Iowa State DMATs. Dr. Simmons is also the Chair for Disaster Management and Emergency Preparedness at the University of Iowa Hospitals and Clinics.

Faculty Member Elected to the AUA

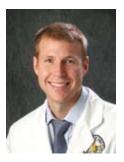


Mazean Maktabi

Mazen Maktabi, MD, Associate Professor, has been elected to the Association of University Anesthesiologists (AUA). The purpose of the Association is to advance the art and science of anesthesiology by encouraging its members to pursue original investigations in both patient care and laboratory settings, to develop methods of teaching anesthesia, and to encourage exchange of ideas. Membership requires that an anesthesiologist have a faculty

appointment in anesthesiology in a medical school or affiliated teaching hospital. Current members of the AUA must nominate and second a candidate, and an extensive evaluation and voting process determines membership.

Newsletter House Staff Representative



Smith Manion

Smith Manion, MD, Chief Resident, has been appointed to the position of house staff representative for the department's newsletter. Each year, one of the chief residents fills this role, which also includes being the liaison between the house staff and department administration regarding noteworthy news from our interns and residents. Dr. Manion replaces previous house staff representative, Clint Rozycki, MD, who has completed his residency

training and moved to Nashville, TN, where he is participating in a cardiothoracic anesthesia fellowship at Vanderbilt University.

Research Grants Awarded



Christina Spofford

Christina M. Spofford, MD, PhD, Associate, has been awarded a two-year Foundation for Anesthesia Education and Research (FAER) Mentored Research Training Grant, which provides \$175,000 in funding for her grant entitled, "Neurotrophic Factor Expression in Post-Operative Pain." Dr. Spofford will work to better delineate the mechanism of incisional pain in the rat hindpaw

incision model using an array of molecular biologic and histochemical techniques. The primary mentor for Dr. Spofford is **Timothy J. Brennan**, MD, PhD, Dr. Samir D. Gergis Professor and Vice Chair for Research. Dr. Spofford is currently in her second year of support under a Research Training Grant awarded to the Department. This FAER grant allows her an additional two years of support to develop data to support future federal funding.



Toshi Kitamoto

Toshi Kitamoto, PhD, has been awarded a total of four research grants recently. He received a 2008 Young Investigator Award from the National Alliance for Research on Schizophrenia and Depression (NARSAD). The award is for \$30,000 in each of two years. This will enhance Dr. Kitamoto's unique research that takes advantage of the fruit fly (Drosophila melanogaster)

genetics to understand the evolutionarily conserved molecular mechanisms responsible for the action of lithium, the primary drug for bipolar disorder, on the nervous system function. In addition, Dr. Kitamoto has been awarded an NIH R21 grant for his work entitled, "Significance of MicroRNA-mediated Gene Regulation in Chronic Neuropathic Pain," which will provide a total direct cost of \$275,000 over a two-year period. The Biological Sciences Funding Program has awarded Dr. Kitamoto \$30,000 over one year for his work entitled "Steroid Control of Memory and Sleep in Drosophila." The Iowa Center for Research by Undergraduates Scholar Assistant program has selected Dr. Kitamoto's work entitled "A Genomewide Forward Genetic Screen to Identify Novel Genes Involved in the Lithium-responsive Neurological Process" for receipt of a one-year grant award of \$2,500.



The University of Iowa Health Care's **Above** and Beyond the Call of Duty Award Program is designed to recognize and reward individuals who have gone above and beyond their formal, identified job duties to exceed the needs of our patients, visitors, and staff, or Above and Beyond the Call of Duty.

Most recently, the following individuals from the Department of Anesthesia were recognized with receipt of this award.

Steven Laubenthal

Anesthesia Workroom Electrical Technician

Evelyn Maki, Respiratory TherapistJebson Hyperbaric and Wound Care Clinic

Bob Milne, Respiratory TherapistJebson Hyperbaric and Wound Care Clinic

Sue Mooney, Respiratory TherapistJebson Hyperbaric and Wound Care Clinic

Juie Ostrem, Speech PathologistJebson Hyperbaric and Wound Care Clinic

Jan Regennitter, RN, Staff Nurse Anesthesia Presurgical Evaluation Clinic

Martin D. Sokoll, MD Professor Emeritus

Sherry Sparks, Respiratory TherapistJebson Hyperbaric and Wound Care Clinic

Chiedozie Udeh MBBS, Assistant Professor

Certified Registered Nurse Anesthetists

News and Highlights

It's that time of year again for the fall edition of the Anesthesia Department Newsletter. By the time everyone is reading this, we hope the floodwaters in Iowa City and surrounding areas have receded to manageable levels. This has created quite a busy summer for most of us, and we can only hope for a quieter fall. Despite this devastation that has affected all of us, we commend all of our anesthesia providers for keeping patient care our number one priority in the operating rooms.

We are gearing up recruitment endeavors to help keep pace with the increase in anesthetizing locations within the University of Iowa Hospitals and Clinics (UIHC) and growing surgical volume. Consistent with the department's



L-R: Elaine Sammons, Ann Smith, Bridget Watters, Heather Bair, Jayne Pluth

team approach to anesthesia care, certified registered nurse anesthetists (CRNAs) are vital to providing the necessary anesthesia services associated with this growth in surgical volume. Given the fixed number of anesthesia providers within the anesthesia residency and student registered nurse anesthetist (SRNA) program, CRNAs are needed to fill this gap. To this end, the two of us have been busy networking,



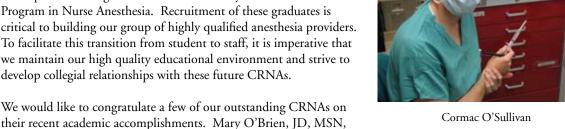
Ann Smith

Samuel Thibodeaux

attending state meetings, and talking with potential CRNA recruits about opportunities within our department. We have several interested candidates from Iowa and surrounding states in various stages of the recruitment process. For our newsletter readers residing locally, if you have the opportunity to meet any of these candidates while they tour the operating rooms or department, please extend a warm Iowa welcome!

Over the summer months, the CRNAs have enjoyed having the latest group of SRNAs shadowing us in the operating room areas. Our CRNA staff dedicates countless hours mentoring and teaching the clinical aspects of nurse anesthesia practice each year. Several of our CRNAs are also active in the classroom giving lectures on

various topics, preparing these future nurse anesthetists for entry into the operating rooms. People often don't recognize the payback our department receives down the road as we are fortunate to keep a large percentage of these "Iowa trained" CRNAs on staff each year. Currently, 14 of the 26 permanent CRNAs on staff within our department are graduates of the University of Iowa Graduate Program in Nurse Anesthesia. Recruitment of these graduates is critical to building our group of highly qualified anesthesia providers. To facilitate this transition from student to staff, it is imperative that we maintain our high quality educational environment and strive to develop collegial relationships with these future CRNAs.



CRNA, completed her JD degree in December of 2007. Mary has been a CRNA with our department since she

finished her anesthesia training here at Iowa in 2002. We look forward to having her as a legal resource among our group. More recently, Cormac O'Sullivan, PhD, CRNA, completed his doctorate program this summer in the College of Public Health, Health Management and Policy. Cormac is the Assistant Program Director for the University of Iowa Graduate Program in Nurse Anesthesia and has been a CRNA with our group since 1996. Please take a moment to commend these individuals on their successes.

Ann Smith, MSNA, CRNA Chief Registered Nurse Anesthetist

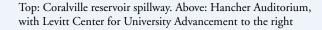
Sam Thibodeaux, MSN, CRNA Assistant Chief Nurse Anesthetist

The Flood of 2008



Dubuque Street, Mayflower dormitory, City Park

The spring of 2008 has replaced the summer of 1993 in the minds of most Iowans. The floods of 1993 were the worst on record, the first time that water had gone over the



spillway at the Coralville dam, a "100 year flood." Now, 15 years later, it came again. This time, water levels exceeded those from 1993, with 83 of Iowa's 99 counties declared disaster areas by the Governor and 55 designated as "Presidential Disaster Areas."

Our floods received a lot of press coverage. The President (and both presidential candidates) visited, as did local, regional, and state politicians. Our local television stations (in particular KCRG, Ch9 in Cedar Rapids) covered the situation round the clock (without commercials!). Thousands volunteered to help - students, faculty, staff, city residents, university athletes, National Guard troops - individuals from all walks of life, ages, professions, etc. Included in these groups were many of our own department members, with involvement ranging from filling sandbags to serving as chair of the hospital's Disaster Management and Preparedness Work Group (Jonathan Simmons, DO). The disaster response efforts in the region were simply superb.

Progressive filling of the Coralville Reservoir started long before the flooding, the product of heavy winter snows and a very wet spring. City Park experienced flooded areas in early May because of controlled outflows from the dam. It all seemed under control until late May/early June when day after day of rain "broke the camel's back." The Corp of Engineers opened the dam to its

maximum outflow, flooding Dubuque Street, but to no avail; the spillway overflowed on June 10th, exceeding the levels of 1993. According to best accounts, the outflow from the reservoir reached ≈40,000 cubic feet per SECOND, double the amount that can be released via the normal outflow



Christopher Johnson (CA-2 resident) and wife, Melanie Klawiter, still allowed to enter their home.



The evacuation process for Christopher Johnson and Melanie Klawiter

controls! The Iowa River rose to unprecedented heights, flooding all of the Peninsula neighborhood area (and all of City Park), closing the Park Road and Iowa Avenue bridges, Riverside Drive, I-380, Highway 965, I-80 (east of town), Highway 1 north of Solon - and then, in spite of a major sandbagging effort, most of central Coralville (much of it at depths of 4-8 feet). By Sunday,



Javier Campos and Mike Todd in attendance at Hospital Emergency Incident Command Systems meeting



Hospital Emergency Incident Command Systems meeting, attended by UI Vice President for Medical Affairs, Jean Robillard, and President Sally Mason

June 15th, 20 university buildings were flooded, including Hancher Auditorium where the water depth reached a level of 18 inches ABOVE the performance stage.

Iowa City was luckier than Cedar Rapids as well as other locations further south (although lucky is a relative term); almost 25,000 people in Cedar Rapids were forced to leave their homes. In Iowa City, fewer than a thousand people were forced out. And best of all, nobody in either Cedar Rapids or Iowa City was killed or even seriously hurt. Operations at the hospital were never seriously compromised, although we were prepared for the worst. For a few days before the water's crest, we feared the closure of all bridges across the Iowa River. This, combined with other road closures, threatened to reduce access to the two lanes of Melrose Avenue and cut off the hospital from staff and patients living north and east of the City. We also feared the loss of electrical power, water, steam, etc. Fortunately, the crest came earlier, and was lower, than predicted. Everyone made extraordinary efforts to make it to work; in spite of the hardships, we were never short staffed. Some nurses stayed in university dormitories, and several from the Quad Cities area volunteered to take a university-chartered airplane to work! We had two days of a slow-down in the operating room, but were back to normal operations by Wednesday, June 18th.



Visual and performing arts campus on the north side; mostly dormitories to the south



Land west of I-380, north of I-80



Wig and Pen restaurant, Coralville

These pictures remind us of our experiences. University photographers took the aerial pictures on the morning of June 16th, at the approximate time of the maximal river crest. The street level residential photos were taken by one of our residents, Dr. Christopher Johnson, who, unfortunately, was forced out of his home by the flood. Additional street level photos were gathered from various sources. In our immediate community of university, residences, and businesses, the recovery period will be a long one. When considering the additional communities involved within 83 Iowa counties, the challenge is almost unimaginable.

Was this a 100-year flood, a 500-year flood, or do we need to start talking about "the flood of the decade?" All we can do is wait and stay prepared.

Mugs presented to spring and fall 2008 contest winners: David Papworth, Lakshmi Kantamneni, Bob Forbes (contest coordinator), Abbey Gilpin, Bob Temple



Second prize winner: *Abbey Gilpin, Secretary* "Calm before the Storm, Independence, Iowa"



of **Special** interest...

Unquestionably lowa

You may recall that in the previous issue of our newsletter (Spring 2008, Page 11), we presented you with the first and second prize winning photographs taken by members of our department. The department is enjoying our photograph competition, and we invite our readers to participate. The criteria for submission are that the photograph must have been taken recently and it must portray something that is "unquestionably" Iowa. For those of you who live in Iowa, these parameters are easy to meet. We invite all others to visit our beautiful state and snap some photos for submission. Be sure to communicate with us prior to your visit, so that we can help you schedule Iowa City into your trip, including a visit to the department. Send your recent, Iowa-defining photographs to Barb Bewyer via e-mail at barbara-bewyer@uiowa.edu.

We received a total of 11 photographs this round, and once again, each and every one is incredibly awesome! The top two "winners" are displayed here. Visit our web site at http://www.anesth. uiowa.edu to view each of the submissions. Our competition remains active, and we will continue to select what the committee feels to be the "best of the best" to display in print, continuing to post all submissions on our web site.

First prize winner: David Papworth, MBBS, Associate Professor
"White-lined Sphinx hummingbird moth feeding in Iowa City"

Patient Simulator Center Donor Plaque Dedication



Louise and Dale Morgan accepting Patient Simulator Center donor plaque on behalf of major donors

Our Patient Simulator Center continues to serve as an integral component of our teaching programs. It is largely due to the generosity of several individuals that our Center is equipped with the contemporary technical equipment needed to provide excellent training experiences. We most recently acquired a new adult mannequin. In addition, Dale Morgan, MD, continues to donate his time and wealth of knowledge to medical student didactic and hands-on teaching in the Center. On April 7, 2008, the department held a reception to thank Dr. Morgan for his contributions, as well as to acknowledge all major donors to the Patient Simulator Center by unveiling a plaque listing their names. Our department is fortunate to be the recipient of major gifts from the following individuals.

Jeanne Jaggard, MD, and Harold Jaffe, MD Charles E. Gray, MD, and Mrs. Janet Roddewig Gray Dale D. Morgan, MD, and Mrs. Louise Morgan

Dr. and Mrs. Morgan accepted the plaque on behalf of the donors. During his response to the presentation, Dr. Morgan read from the dedication page of his copy of the Fourth Edition of the textbook entitled *Anesthesia in General Practice*, authored by Dr. Stuart Cullen, and personally signed by Dr. Cullen. The dedication read, "To my wife who, without complaint and with courage and with the pioneer spirit

of many physicians' wives, endured many months of privation and solitude while the requisite training for a specialty was being obtained." Dr. Morgan expressed this sentiment also holds true for him, as he suspects it does for many others.

This is Africa



Franklin Cobos

I always knew I'd go back to Africa. I just hadn't thought I'd have to quit my job to do it. I go for the challenge, and for the change. After being on staff teaching at the University of Nebraska and doing every case except pediatric heart and lung transplants, I figured it was time to move on. During my most recent trip, I went as a team of one, so I got to call all the shots. I knew there would be little to work with after arriving in Malawi, and perhaps even less once crossing the border to Zambia for half of my six-week trip. As it turned out, I only had six drugs with which to do all that was to be done: halothane, lidocaine, valium, ketamine, atropine, and meperidine. I had taught residents that it's not so much what resources you have at your disposal that's important, but whether or not you can use them intelligently. Now it was time to practice what I preached.

The first challenge was to free each of the five facilities I visited from the burden of purchasing tank oxygen (assuming it was available and they could afford it, which was not always

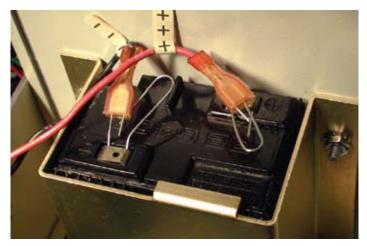
the case). The trouble was that the donated anesthesia machines were all dependent upon compressed cylinder gases. The lateral thinker in me quickly decided we would use none at all, but opt out and use draw-over technique instead, which uses the patient's own inspiratory effort to bring fresh gas through the vaporizer and pick up volatile anesthetic. One draw-over vaporizer had been purchased ahead of time and shipped to the first hospital I visited, and at three of the others, I found Oxford miniature vaporizers that I was able to clean and use successfully (thank goodness they still had some ether for cleaning the thymol out of the vaporizers!). For those of you who don't know, thymol is the preservative used in halothane, which, unfortunately, gums up the works in vaporizers as it is left behind as a residue during vaporization.



Nurses working with Dr. Cobos

Room air general anesthesia with halothane is cheap, and as a few pulse oximeters proved, safe. I was also able to get a few oxygen concentrators working and use them to supplement the room air, generating an FiO2 of roughly 40-85%, depending on minute ventilation. This was done by adding an O2 reserve upstream of the vaporizers, along with a one-way valve (made out of a cut up

This is Africa continued



Paper clip jumper cables

rubber glove finger and breathing circuit adapter) to prevent the loss of accumulated O2 from the concentrator and at the same time allow room air to enter the breathing system if and when the O2 reserve was depleted.

OK, so now we're doing anesthesia. How about monitors? Guess what? YOU are the monitor! Novel concept? No, it is the way it should be. You yourself must pay attention to everything. And if you have instruments to aid you in this process, so be it. Pulse oximeter? Great if you have one. If not, use your earpiece or stethoscope. EKG? I only saw one that worked in all of two countries (and I had to retape the cables to the leads to get it to work). Blood pressure? Sure, you've got some old mercury manual blood pressure devices; however, you'll have to hold the mask at the same time, since intubations depend on supplies of endotracheal tubes, laryngoscope handles, batteries, and functional bulbs in those handles/blades. (You mean you didn't bring any with you?) How about capnography? Well, rumor is that there is one that works in the capital city at the university training hospital. You'll just have to listen to breath sounds and feel the bag. Temperature? Good grief, it's the tropics. It's hot. It's always hot, even in winter (although I did see one guy wearing a down jacket while riding his motorcycle, and it was about 72 degrees). I mean, we're all sweating here, not just the surgeon.

When it was all said and done, I'd actually spent more time repairing and jury rigging equipment (like the paper clip jumper cables to make the pulse oximeter work) than administering anesthesia! But, what did I expect? After all, "This is Africa!"

Franklin V. Cobos II, MD Visiting Associate

Editor's Note: We invite our readers who also volunteer in countries where your skills are so greatly needed and appreciated to write us about your experiences.

The Miles of Smiles Team Annual Trip to Guatemala

In April 2008, four members of the Department of Anesthesia participated in an 11-day trip to Quetzeltenango, Guatemala with the Miles of Smiles Team (MOST). **Robert Forbes**, MD, Professor, who is a regular participant in this annual trip, was accompanied by **James Schuh**, MD, visiting Associate, and two senior residents, **Chandra Beals**, MD, and **Thomas Cannon**, MD. Rotary Clubs from Iowa City and Guetzeltenango, with additional support from local individuals, businesses, and hospitals, sponsored the trip. During the mission to Guatemala, the team, composed of surgeons, anesthesiologists, dentists, pediatricians, nurses and numerous support staff, was able to treat many cleft lip and palate patients who otherwise may not have received treatment. The trip required many months of preparation, including involvement from individuals and organizations in Guatemala.

Once in Guatemala, it required two days to set up operating rooms, the recovery room, and to screen patients for surgery and other health concerns. All children, whether a candidate for surgery or not, received a medical evaluation by a



Patients and families awaiting evaluation

pediatrician and a dental evaluation from one of the dentists on the team. During the mission, the local government honored MOST for the care and compassion provided to the community. However, the most rewarding aspect of the mission for us was experiencing the gratitude from patients and their parents.

MOST was able to treat 33 patients during four days of surgery. The patients ranged in age from five months to 44 years old. Most procedures involved repair of cleft palates or cleft lips; however, dental and myringotomy tube procedures were also performed. There were no anesthetic complications.

It was an exciting opportunity, especially for the two us recently graduated residents, to share part of what we learned while at the University of Iowa. This was the second year in a row in which anesthesia residents were able to participate in an international mission.

Providing anesthesia in a developing country is a challenging responsibility, one that requires diligence and a high standard of care to ensure patient safety. Adapting to the differences and challenges in a country such as Guatemala was sometimes frustrating, but very definitely it was also extremely rewarding.

Thomas Cannon, MD 2008 Resident Graduate



Prairie High School (Gowrie, IA) students with Ann Willemsen-Dunlap

High School Students Visit Patient Simulator Center

The Department of Anesthesia, University of Iowa (UI), welcomed high school students from Prairie High School, Gowrie, Iowa, on June 11, 2008. The Roy J. and Lucille A. Carver College of Medicine made arrangements to provide a group of top-notch students interested in pursuing the medical field the special opportunity to experience a visit onto the UI health sciences campus. The students' day was planned around an interactive experience that included a case-based learning scenario and patient simulation. Our Patient Simulator Center team enjoyed sharing their knowledge and expertise, providing a unique experience for these students, who were accompanied by a teacher and nurse from their school. The students all commented about how they know they really want to go into the medical field now and hope they can do so at IOWA!

Center for Pain Medicine and Regional Anesthesia Provides Tour to Special Visitor

On Friday, March 28, 2008, Iowa's Second District Congressman, Dave Loebsack, toured the Center for Pain Medicine and Regional Anesthesia at the University of Iowa Hospitals and Clinics. Following the tour, he met with doctors, nurses, active duty Iowa soldiers, and Iowa veterans to discuss the Military Pain Care Act, H.R. 5465. This legislation, introduced by Congressman Loebsack in February, would require the Department of Defense to implement a comprehensive pain care management program for all active service members being treated after injury. As a result of improved pain care management, injured service members will be able to better transition back to their civilian lives. The latest major action regarding this legislation is that it was included in the National Defense Authorization Act approved by the House of Representatives.

Medical Students Practice IV Placement

The University of Iowa Medical Student Interest Group sponsored their first-ever "intravenous (IV) placement practice session" on March 3, 2008, in the Anesthesia Department. Medical student curricula previously included practicing IV placement during the first week of their M3 Clinical Beginnings course, an opportunity no longer available. Thus, the Anesthesia Interest Group organized an occasion for the students to gain this experience. Thirty medical students participated, practicing IV placement on each other with the oversight of **James Y. Choi**, MD, Associate Professor; Director, Medical Student Clerkship; Chair, UI Carver College of Medicine Admissions Committee. Our Anesthesia Externs also assisted during this session.



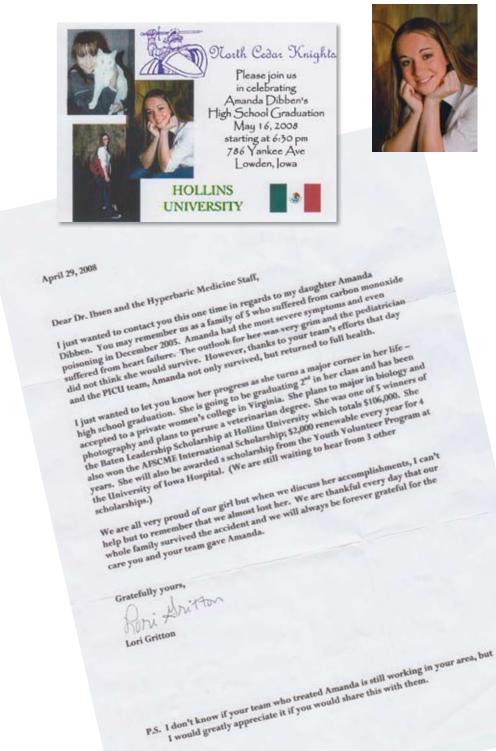
The not-so relaxed atmosphere once the practice session begins



Congressman Dave Loebsack (center) with staff from the Center for Pain Medicine and Regional Anesthesia, Lee Kral, Robert Temple, John Stanec, Richard Rosenquist, Anke Bellinger, and Amy Stockman

News from a

Grateful Patient



Caring for our patients and their families is the primary mission of University of Iowa Hospitals and Clinics (UIHC). Faculty and staff within the Department of Anesthesia are serious about our responsibility and contribution in this effort. Patient success stories illustrate the breadth and depth of our institution's clinical services, which includes the technologies implemented and research breakthroughs discovered that contribute to these positive outcomes.

Words of thanks from grateful patients and their families are the greatest measure of our success. Words used in communications of thanks often include "committed," "caring," "fantastic," "kind," and "knowledgeable." Phrases include "healers who restore the body," "providers of the first rays of hope," "the battle was won," "able to walk out because you walked in," and "always concerned for our comfort."

In December 2005, members of our department's Jebson Hyperbaric Medicine and Wound Care Facility were called upon to care for a family who suffered from carbon monoxide poisoning. While our team considered their actions nothing out of the ordinary, these family members felt otherwise. In fact, two and one-half years later, this family of five remembers with gratitude the special care given them during their stay at UIHC. Ms. Lori Gritton even took the time to write us a letter of thanks and include an update regarding her daughter, Amanda Dibben, the most seriously injured member of her family. With their permission, we share with you now their message of thanks.

Alumni Update

Thanks to so many of our alumni and readers who have taken time to communicate with us since our last issue of the newsletter. It's truly great to hear from you. Your messages are arriving via regular mail, e-mail, phone, and even in person! Each of you has reported that you enjoy reading our newsletters, something we are pleased to know. Remember, your suggestions and constructive criticisms are also welcome! We'll be bringing you several more stories in our spring 2009 issue in follow-up to many of your letters. As we've mentioned previously, creating a more detailed and documented history of our department is one of our goals. We are very appreciative to those of you who have sent us summaries and facts, and we welcome hearing from more of you.

You can correctly surmise, based on just the articles within this issue, we do keep busy. In addition to our primary mission of delivering excellent care to our patients and their families, we have kept on the go with other activities. We're running out of room within our photo gallery pages to share with you summaries of all we do! We're moving to an all-electronic clinical information system as part of the hospital's effort to implement more streamlined and secure patient recordkeeping for operating room case scheduling and documentation. We continue to plan and sponsor workshops and symposia. We've selected Dr. Timothy J. Brennan as the Dr. Samir D. Gergis Professor of Anesthesia, which is our department's first endowed professorship. We now look forward to establishing a second endowed professorship, thanks to the generosity of Dr. Gilbert E. Kinyon. We are nurturing closer relationships with our colleagues within the Carver College of Medicine and The University of Iowa Foundation. We've hosted state and local politicians who hear our concerns regarding patient care and reimbursement issues. We've hosted high school students in our Patient Simulator Center and honored our significant donors who contribute to allow for this fantastic facility. We've celebrated our physician volunteer educator, Dr. Dale **D. Morgan**. We hosted a graduation luncheon for our outgoing residents and fellows. We hosted a welcome picnic for our incoming residents and fellows.

Mark your calendars for upcoming events we are planning! Our annual fall department picnic is being planned for Sunday (09/28), and all alumni are welcome. The American Society of Anesthesiologists Annual Meeting will be in Orlando, FL, in October, and we are organizing a special celebration on Saturday (10/18) in honor of Dr. Gil Kinyon.

Yes indeed – we do keep busy, and we're confident our readers do as well. We emphasize that we welcome making time to spend with you. We invite your e-mails, letters, and phone calls. We encourage department visitors. We welcome invitations to meet with you one-on-one, in Iowa City any time, in Orlando in October, or maybe we'll let you know when one of us will be in your neck of the woods! Keep your communications coming! Contact Barb Bewyer via e-mail at barbara-bewyer@uiowa.edu, or by telephone at 319-353-7559, or by regular mail.

Of Special Mention...

Our department has learned of the June 6, 2008 death of **Douglas W. Eastwood**, MD, Cleveland, OH. Dr. Eastwood attended The University of Iowa ('43 MD, '49 R), and is believed to be among our department's first group of medical student externs. He served as chair of the Department of Anesthesiology at the University of Virginia Medical Center in Charlottesville, VA prior to moving to Cleveland in 1972. In 1989, he retired as emeritus professor at Case Western in Cleveland. He is survived by his wife, Ruth Beitel Eastwood, three sons, one daughter, and their families.

Our department has also learned of the June 3, 2008 death of **Harvey B. Eastburn**, MD, Burlington, IA. Dr. Eastburn attended The University of Iowa ('42 MD, '48 R). He served in the U.S. Army from 1943-1945, in-between his internship year at Methodist Hospital in Indianapolis, IN, and the start of his Iowa anesthesia residency, and was awarded the Bronze Star Medal and the Chinese Gold Star of Honor. He spent his entire career in private practice in Burlington, retiring in 1985. Dr. Eastburn is survived by his wife, Eleanor, one sister, three daughters, one son, and their families.

Alumni Profile Gilbert E. Kinyon, MD

"My advice to the younger generation: If you practice anesthesia conscientiously, you will receive much gratification and be rewarded financially. I have never regretted becoming an anesthesiologist. I would do it over again."



Gilbert and Mary Kinyon

The above quote summarizes the commitment Dr. Gilbert Kinyon has given to the medical specialty of anesthesiology, as well as his fondness for practicing it. Dr. Kinyon grew up and was educated in Iowa. He was born in Tipton and completed high school in Oxford Junction. As was the case for many during the 1940s, Dr.

Kinyon's education was interrupted when he was called to serve his country. He spent from 1942 - 1945 in the U.S. Army. He was awarded two bronze stars and a purple heart for his heroism, and given a medical discharge due to wounds received in combat. Dr. Kinyon returned to Iowa to further his education, receiving his bachelor's degree (1946) and medical degree (1950) from The University of Iowa. Notable classmates of his are Drs. John Eckstein (former dean of the UI College of Medicine) and John Tyrrell. After spending his intern year at Methodist Hospital in Indianapolis, IN, he again returned to Iowa City and completed a residency in anesthesia at University of Iowa Hospitals and Clinics (UIHC) in 1953.



Gilbert Kinyon, 1953 UI anesthesia resident graduate

Dr. Kinyon remembers becoming interested in anesthesiology during his senior year of medical school. Dr. Stuart Cullen's staff of anesthesiologists at that time included Drs. Lucien Morris, William Hamilton, and Jack Moyers. It was that remarkable experience that influenced Dr. Kinyon's decision (as well as six other graduating medical students in 1950) to select the specialty of anesthesiology.

Dr. Kinyon was appointed diplomate in the American Board of Anesthesiology in 1956, and a fellow in the American College of Anesthesiology in 1960. Prior to his retirement in 1993, Dr. Kinyon held several clinical appointments in the San Diego, CA area, including Mercy Hospital and Medical Center, where he served many years as Director of the Anesthesia Training Program. He also held affiliated appointments at the University of California, San Diego.

His numerous publications and invited presentations spanned a broad spectrum of interests. The list describing his service to numerous local, state, and national committees is several pages long, and he served as chair on many. He served as President of the California Society of Anesthesiologists (CSA) from 1972-1973, and was presented with the CSA Distinguished Service Award in 1987. A founding member, Dr. Kinyon served as president of the Arthur E. Guedel Memorial Anesthesia Center from 1975 – 1981. This center, created to preserve the history of the anesthesiology specialty, is named after a pioneer of modern anesthesiology on the West Coast and is housed in the Health Sciences Library at California Pacific Medical Center in San Francisco, CA.

Rich and fruitful are words Dr. Kinyon uses to describe his life. He feels blessed by his family - wife, Mary; his daughters, Michele and Leslie; their husbands; and his grandchildren, Alice and Matthew. Retirement has meant extensive traveling for Dr. Gil and Mary Kinyon, with at least three trips around the world. One such trip found Dr. Kinyon teaching a weeklong course in Moscow and living in an apartment with a physician couple during their stay. Gardening is a passion for him, and he maintains a small garden at his home in La Jolla, CA, overlooking the Pacific Ocean. He enjoys reading, playing bridge, and involvement in his church and many clubs. For 25 years, he has served as medical officer in his beloved 94th Infantry Division

Association.

Gil and Mary Kinyon last visited Iowa in 2005, attending his 55th medical class reunion. He was pulled out of the audience to participate in a performance based assessment program scenario with a standardized



Gilbert Kinyon with "patient Phoebe" participating in a performance based assessment scenario during his 55th Medical class reunion in 2005

patient, and thoroughly enjoyed the experience! Relationships built due to his Iowa roots and experiences contribute to Dr. Kinyon's continued "connection" to this state, and he has continuously given back through his support to The University of Iowa. His contributions have been generous and frequent.

More Remarkable Department News

The Department of Anesthesia at the University of Iowa Hospitals and Clinics, in conjunction with the University of Iowa Foundation, is honored to announce that Dr. Kinyon has recently established a charitable gift to create our second endowed professorship – the GILBERT E. KINYON PROFESSORSHIP. We are extremely proud to have this opportunity to honor his name and his contributions to the department, the university, and the specialty. We look forward to celebrating with Gil and Mary Kinyon during the upcoming Iowa alumni reception being planned in conjunction with the American Society of Anesthesiologists Annual Meeting. PLEASE PLAN TO JOIN US ON SATURDAY, OCTOBER 18, 2008, 6:00 – 9:00 P.M., SALON 10, ROSEN PLAZA, ORLANDO, FL. Midway through the evening, we will pay special recognition and honor to Dr. Gilbert E. Kinyon, an extraordinary man. In his own words of modesty, he states, "I will always be grateful to The University of Iowa where it all began. It is our pleasure to be returning a small portion."

A Letter from UI Foundation

...a common thread in many stories I hear is that the University of Iowa fostered their potential.

A Word from Monica Foley

Department of Anesthesia representative for the UI Foundation



Monica Foley

In my work, I have the privilege of visiting alumni, and when I do, I like asking them what difference The University of Iowa has made in their lives. Circumstances and courses of study differ, but a common thread in many stories I hear is that the University of Iowa fostered their potential. Perhaps their rigorous residency training in the Department of Anesthesia prepared them to follow a long-held dream to be a great practitioner in that specialty. For other alumni, including myself, the richness of the university experience itself unlocked potential and inspired dreams by broadening the horizons of a kid from small-town Iowa. How has The University of Iowa helped you reach your potential? Did a special residency director in anesthesia change the way that you practice today? Did a scholarship make medical school possible? I hope to have the chance to ask all of you this question, but in the meantime, I encourage you to ask it of yourself.

It is important for each of us to realize our role in helping The University of Iowa reach its potential and consider how we might give back. Private support to our university and medical college has been important since its founding, but it is nothing short of critical in today's funding environment. Thousands of donors express their loyalty to the university, to the Carver College of Medicine, or to the Department of Anesthesia through an annual gift. We appreciate those who have done so, and welcome new givers to begin! These valuable annual gifts help this special place keep up the good work accomplished daily.

Other special donors make larger contributions through estate planning or outright giving. These are the gifts that make new chairs, professorships, scholarships, and research funds possible. These major gifts constitute your generation's legacy; they serve to unlock the university's potential for coming generations. If you would ever consider being a part of this special group, please let us know. When you work with your estate planner, be sure to include the proper language in your will or trust: "I give to the State University of Iowa Foundation, an Iowa nonprofit corporation in Iowa City, Iowa..." There are many ways to structure a major gift. They can be part of an estate plan, they can be pledged over a number of years, they can even provide income to you during your lifetime. Feel free to contact me by sending an e-mail to monica-foley@uiowa.edu or by calling 1-800-648-6973. I look forward to talking with you and answering questions about any type of gift to the Department of Anesthesia.

Monica A. Foley Assistant Director for Development, Major Gifts Carver College of Medicine/University Hospitals and Clinics The University of Iowa Foundation www.uiowafoundation.org

Photo Gallery

As our newsletter grows in size with each issue, we are faced with decisions regarding what content and graphics to include. This issue leaves room to provide you only one page of photographs, representative of our department's numerous activities since the last issue. Additional photographs can be viewed via clicking the link across the top bar

labeled "News" at our Department website, **http://www.anesth.uiowa.edu/**. If you are unable to access these additional photographs, please contact Barb at barbara-bewyer@uiowa.edu, or 329-353-7559, or by mail. She will be happy to print out an additional selection and send them to you.

2nd International Symposium in Los Cobos, Mexico

Right: Attendees observing procedure by Richard Rosenquist, with John Palacek as patient

Lower right: Robert Raw, assisted by Mike Todd (in background to right), preparing subject Megan Miller for procedure

Below: Participants observing demonstration by Javier Campos and Sarah Titler





Annual Spring BBQ



All-department annual spring BBQ

FAER Grant Celebration



Celebration of FAER grant: Christine Spofford (recipient), Mike Todd, Tim Brennan (mentor)

Resident/Fellow Graduation Ceremony



Mike Todd, Donna Merck (program coordinator), Tom Hogan (resident graduate), Tara Hata (program director)



Mike Todd, Donna Merck, Terence Cone (fellow graduate), Steve Hata (critical care fellowship program director)

Resident/Fellow Picnic



All-department annual spring BBQ

Visiting Professor



David Warltier, Visiting Professor from Medical College of Wisconsin (middle), with Christina Spofford and Mike Todd

Airway Workshop



Merete Ibsen working with Joey Odum (CA-1) during an airway workshop



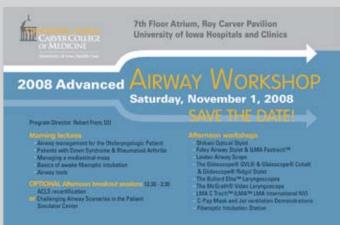
David Swanson working with Angela Ko (CA-1) during an airway workshop



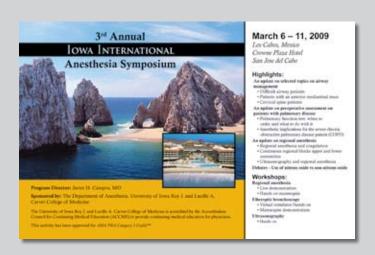
University of Iowa Hospitals and Clinics Department of Anesthesia 200 Hawkins Drive Iowa City, IA 52242

Change Service Requested





Save the Date!



For additional information, contact Lori Bailey Raw, CME office:

lori-bailey@uiowa.edu or 319-335-8599